operating conditions in each of the two regions. That is, the higher coercivity and lower magnetic moment in the ID region support a higher linear density due to reduced UBD, and the lower coercivity and higher magnetic moment in the OD region improves writing properties and signal-to-noise ratio. In one configuration, the underlayer has a thickness that decreases from an inner diameter of the disk to an outer diameter of the disk to decrease the coercivity from the inner to outer disk diameters. In one configuration, the increased Mrt or magnetic remanence in the OD region provides a higher signal strength (or SNR), thereby permitting more noise to be tolerated and a higher linear bit density (or UBD) to be utilized. The decrease in the coercivity towards the OD region further provides better writing properties in the OD region (in which recording heads typically encounter more resistance to recording or writing bits), thereby providing reduced demands (relative to existing storage media) on the write head, the data detection channel, and the pre-amplifier, and permitting the head to write to the disk at a higher data rate. As a result of the foregoing, the Bit Per Inch (BPI) can be high enough in the OD region to be limited by data detection channel performance, as in the case of the ID region. The use, in the OD region, of a higher BPI than has been previously possible provides a significant increase in the areal density of the disk. For example, in a conventional disk the BPI reduction from the ID to the OD regions typically varies between about 20% to about 50%. Using the disk design of the present invention, the BPI reduction can be much lower than these values.

Please amend the paragraph beginning at page 14, line 20, as follows:

Because of the variation in magnetic remanence, the disk at the first position typically has a first magnetic moment and at the second position a second magnetic moment with the first magnetic moment being less than the second magnetic moment. In one configuration, the first magnetic moment ranges from about 0.2 to about 1.0 memu/cm^2 and the second magnetic moment from about 0.2 to about 1.0 memu/cm^2. In one configuration, the first magnetic moment is no more than about 95% of the second magnetic moment. In one configuration, a first thickness of the magnetic layer is more than a second thickness of the magnetic layer. The first thickness is typically at least about 75% of the second thickness. The first thickness commonly ranges from about 60 to about_300 Å and the second thickness from about 60 to about 300 Å.

Please amend the paragraph beginning at page 17, line 5, as follows:

Figure 9 depicts a disk according to yet another embodiment of the present invention. The disk 200 includes a substrate 204, for example a nickel-phosphorous layer 208, an underlayer 212, a magnetic layer 216, and a protective layer 220. The thicknesses of the magnetic layer (t_m) and underlayer (t_u) vary radially in a stepwise (discontinuous fashion). As can be seen from Figures 10, 11, 12, and 13, the coercivity, Mrt, magnetic layer and underlayer thicknesses, and Mr, respectively, also change radially in a stepwise fashion. As can be seen from these Figures, the disk has three zones 224a-c (Figure 9) which are concentrically disposed about the disk center. The thicknesses t_u and t_m, Mr, Mrt, and coercivity are each at least substantially constant or uniform in each zone and vary among the zones. The radial width of the first zone 224a is the difference between r_i and r_1, of